Physical Fitness: The Air Force Fitness Program AFI 40-501

POC's

- FPM
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  - Master's Level
- Ms Sarah Haulman 377-5305
  - HPM/Flight Chief
  - RN, Master's Level
- Unit Fitness Program Manager
- Linda Marinovich 377-1886
  - Fitness Specialist

Fitness Programs

- SFIP
  - Self directed fitness improvement program
  - 180 days
  - Polar Favor available
  - May retest anytime (recommend no sooner than 1 month)
  - If you meet standard before 180 days, program ends
- MFIP
  - Mandatory fitness improvement program
  - Mandatory (Monitored) Bike class 3 times per week
  - Must have monthly practice tests
  - 180 days
  - Polar Vantage/Accurex HR monitor used for out-of-local-area leave/TDY
  - If you meet standard before 180 days, program ends

Responsibilities of Member

- At a minimum, member must exercise at FITT principle minimums per AFI 40-501
- Member must document activity on an AF Form 1975
- Follow AFI 40-501 & Local Policies for each program

Physical Fitness Components

- Aerobic Fitness
  - Single best indicator of total fitness
- Muscular strength/endurance
- Flexibility
- Body composition
- Agility/coordination

Energy Systems

- Aerobic metabolism (VO_{2max})
  - "With oxygen"
    - Slow & Long
    - Large muscle groups
    - Continuous & Within Training Zone
- Anaerobic metabolism
  - "Without oxygen"
    - Short activities (<90 seconds)
    - High intensity
    - Resistance training, Stop & Go activities

What is VO_{2max}?

- ml/kg/min (relative to body weight)
- The maximal amount of oxygen that can be utilized by the body per minute.
- The greatest capacity of the body to process oxygen and therefore perform work.

What influences your VO_{2max}?

- Heredity
  - 25 to 40% influence on training adaptations
- Gender
  - Men have 15 to 30% higher values
    - Body Composition
    - Hemoglobin Content
- Age
  - After 25, 1% decline per year

What influences your VO_{2max}?

- Smoking
  - Acute Effects
    - Carbon Monoxide
    - Increase in airway resistance
    - Nicotine increases heart rate
  - Chronic Effects
    - Decrease in dynamic lung function influenced by length of habitual smoking

FITT Principle

Minimal level for CV Improvement

- Frequency 3 - 5 x/week
- Intensity 70 - 90%HRmax
- Time 30 - 60 minutes
- Type Any aerobic activity that is rhythmic, uses large muscle groups, and can be maintained continuously

Target Heart Rate Zone

220 - age =

predicted HRmax

HRmax (70 - 90%)

70-90% = Fitness benefits (VO_{2max})

Target Heart Rate Zone

Member is 20 years of age

220-20 (AGE)=200 bpm

200 is predicted HRmax

200 (.70)=140 bpm 200 (.90)=180 bpm

Training Zone is 140-180 bpm

70% is minimum for CV improvement

Principles of Aerobic Training

- Progression
  - Slowly increase the frequency, intensity, or duration (3-4 weeks) to maintain an overload
- Overload
  - The overload must both engage the appropriate muscles required by the activity and stress the CV system.
- Specificity
  - A specific exercise overload must be applied to specific muscles to bring about a training change and effective improvement in those muscles

How do you apply the principles of aerobic training?

- Progression
  - Begin exercising for 30 min at 70%HRmax or higher within comfortable limits
- Overload
  - Adjust your workload (speed, incline, rpm's, level, step height, etc…) to maintain %HRmax
- Specificity
  - Incorporate stationary bike into your routine

Training Adaptations

- Assessment based on heart rate response to a workload
- Pre-training: WK 2.0 kg HR 150 bpm
- Training: BIKE 3/week 30 min HR in TZ (6 months)
- Post-training WK 2.0 kg HR 140 bpm
- LOWER heart rate at the same workload results in a HIGHER VO_{2max}

AF Fitness Standards

Age	Females	Males
17-24	27	35
25-29	27	34
30-34	27	32
35-39	26	31
40-44	26	30
45-49	25	29
50-54	24	28
55-59	22	27

Benefits of Exercise

- Lower risk for disease
- Live longer
- Increased stamina
- Decreased anxiety and depression
- Enhanced feelings of well-being
- Greater job productivity